

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
7 April 2005 (07.04.2005)

PCT

(10) International Publication Number
WO 2005/032171 A1

(51) International Patent Classification⁷: **H04Q 7/20**,
H04L 12/28

(72) Inventors; and

(75) Inventors/Applicants (for US only): NEBOT, Eduardo [AU/AU]; c/- Australian Centre for Field Robotics, The Rose Street Building J04, Room 111, The University of Sydney, Sydney, NSW 2006 (AU). GUIVANT, Jose, Emilio [AR/AU]; C/- Australian Centre for Field Robotics, The Rose Street Building J04 Room 111, The University of Sydney, Sydney, NSW 2006 (AU).

(21) International Application Number:
PCT/AU2004/001328

(74) Agent: SHELSTON IP; 60 Margaret Street, Sydney NSW 2000 (AU).

(22) International Filing Date:
27 September 2004 (27.09.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

(25) Filing Language: English

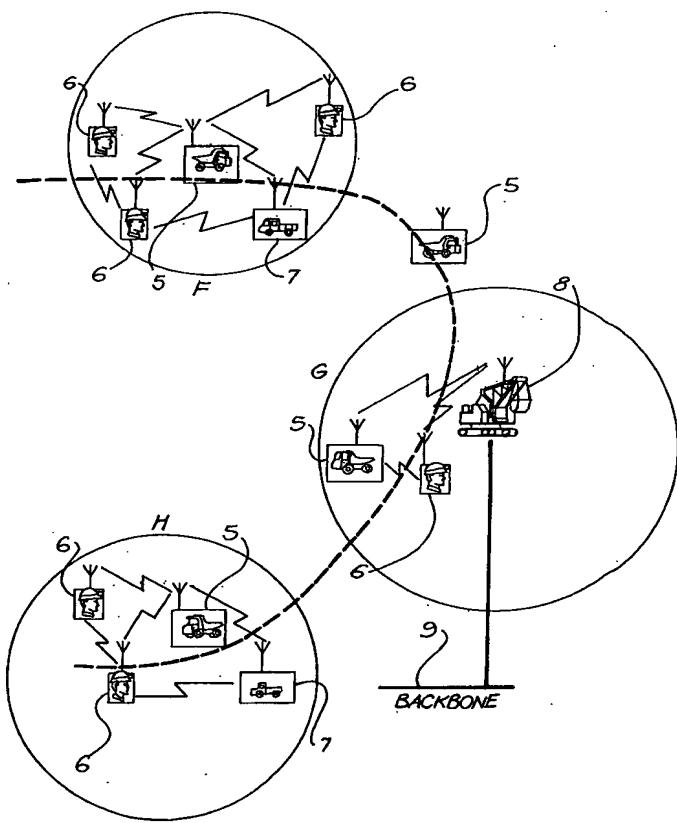
(76) Priority Data:

2003905293 26 September 2003 (26.09.2003) AU

(71) Applicant (for all designated States except US): CMTE DEVELOPMENT LIMITED [AU/AU]; Building 101, UQ Pinjarra Hills Campus, 2436 Moggill Road, Pinjarra Hills, QLD 4069 (AU).

[Continued on next page]

(54) Title: VIRTUAL NETWORK SYSTEM



(57) **Abstract:** A virtual wireless computer network allows communication between a number of regions (F, G, H), which may be beyond normal wireless communication range, by carrying information between regions using mobile stations (5) which travel between regions. Each mobile station transmits and/or receives information by wireless communication to other stations within a region when it is in that region, to update both the stations in that region and the mobile station. One region may include a fixed station (8) hardwired into a backbone network (9). The network has particular application in a mining situation where the mobile stations may be haul trucks (5) carrying information between people (6) and light vehicles (7), with the fixed station at a crusher or shovel (8).

WO 2005/032171 A1



TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.